

## ABSTRACT OF THE DISCLOSURE

When a branch instruction is decoded by the  
5 instruction decoders 409a ~ 409c, the upper 29 bits of the  
PC relative value included in the branch instruction are  
sent to the upper PC calculator 411 and the lower 3 bits  
are sent to the lower PC calculator 405. The lower PC  
calculator 405 adds the lower 3 bits of the PC relative  
10 value and the lower 3 bits of the present lower PC 404 and  
sends the result to the lower PC 404 as the updated lower  
PC. The upper PC calculator 411 adds the upper 29 bits of  
the PC relative value, the upper 29 bits of the present  
upper PC 403, and a carry that may be received from the  
15 lower PC calculator 405, and sends the result to the upper  
PC 403 as the updated upper PC.